HOOKER CHEMICAL/RUCO POLYMER SITE
Town of Hicksville, Nassau County, New York
EPA CERCLIS ID Number NYD0029203

OPERABLE UNIT ONE (OU-1) REMEDIAL ACTION REPORT

I.- INTRODUCTION

Site Location and Description

The Hooker Chemical/Ruco Polymer Site (the "Site") is located in an industrial park area of Hicksville on Long Island, New York. The Site had been used to manufacture plastics, latex, and esters since 1945. Liquid process wastes were discharged into sand sumps from 1951 to 1975. The sand sumps for Plant 2, which manufactured polyvinyl chloride (PVC) and latex, received approximately two million gallons of process wastewater per year from 1956 to 1975. In addition, unknown amounts of styrene and butadiene were discharged from the latex processing. Reportedly, the dry well for Plant 1, used for the manufacture of esters, received wastewater containing mixed glycols and alcohols.

Numerous leaks and spills of chemicals, including polychlorinated biphenyls (PCBs), had occurred. Waste disposal and chemical spillage also had occurred at the adjacent Grumman Aerospace Corporation Plant and that disposal and spillage are being addressed by the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Navy.

Approximately 20,000 people live within one mile of the Site. There are four public water supply wells also within one mile of the Site and there are 24 wells within three miles of the Site.

Site Background

Operable Unit One (OU-1) was the first of three operable units for the Site. OU-1 addresses the majority of the Ruco property soil contamination.

On October 1, 1984, the Site was proposed for inclusion on the National Priorities List (NPL) and was added to the NPL by publication in the Federal Register on June 1, 1986.

On September 21, 1988, the EPA signed a Consent Order with the PRPs to conduct a study to determine the nature and extent of Site contamination and to evaluate alternatives for final cleanup. On January 28, 1994, based on the results of this study, the EPA issued a Record of Decision (ROD) for OU-1 for the Ruco facility which comprises the Site. The ROD included additional soil sampling, possible excavation of shallow soils in limited areas, soil flushing in one and possibly two sumps, and control of contaminated ground water beneath the Site.

On June 30, 1994, the EPA issued a Unilateral Administrative Order directing the PRPs to perform the Remedial Design and Remedial Action (RD/RA). Actions on the Site are being coordinated with actions taken on the adjoining Northrop/Grumman (Northrop) and Naval Weapons Industrial Reserve Plant (NWIRP) sites. The ground water from the Site is commingled with the downgradient contaminated ground water beneath the Northrop and NWIRP sites.

Subsequent to the EPA's issuance of the ROD for OU-1, the Northrup Treatment System and the coordinated ground-water investigations were completed. Based on the results of the ground-water investigations, which included sampling and analysis of wells beyond the Hooker/Ruco Facility, the EPA reevaluated the need to extract the ground water at the Hooker/Ruco Facility boundary. The ROD for OU-3, signed September 29, 2000, addresses the downgradient commingled contaminated ground-water plume beyond the Hooker/Ruco Facility and also the contaminated ground water beneath the Hooker/Ruco Facility which was previously included under OU-1. The selected remedy of the OU-3 ROD was based on the recognition that an existing ground-water extraction and treatment system which is part of the selected remedy at the downgradient Northrop Site is containing and remediating a commingled plume of TCE and PCE from the Northrup, NWIRP, and the Hooker-Ruco Sites.

The remedial actions performed for the unsaturated soil component of OU-1 consisted of: the excavation and off-Site disposal of 327 tons of PCB-contaminated soil; removal and off-Site disposal of the concrete tank in Sump 1; and, the installation of a soil-flushing system in Sump 1 to enhance the cleanup of the remaining minimal chemical presence in the unsaturated soils. The flushed chemicals are being addressed by the OU-3 ground-water remedy. The soil flushing system was installed in December 2001.

II.- OPERABLE UNIT ONE (OU-1) BACKGROUND

As noted above, on January 28, 1994, based on the results of a Remedial Investigation/Feasibility Study performed under an earlier Consent Order, the EPA issued a ROD for OU-1. The ROD included additional soil sampling, possible excavation of shallow soils in limited areas, soil flushing in one and possibly two sumps, and control of contaminated ground water beneath the Site.

The specific components of the remedy for OU-1 included:

- the installation of ground-water extraction wells to control the flow of contaminated ground water from leaving the Site and migrating downgradient;

- the installation of a ground-water treatment system to treat the extracted ground water;

- the installation of a discharge system to dispose of the majority of the treated ground water;

- additional soil testing in the bottom of Sump 2 and around monitoring well MW-E to

determine if contaminants are present in the soils and to compare the levels present to the soil cleanup criteria that are considered protective of ground-water quality; and,

- soil flushing for the deep soils in Sump 1, and possibly Sump 2 (based upon the results of additional soil testing). The soils were to be flushed by the discharge of treated ground water. The contaminants flushed out by this process were to be recaptured by ground-water extraction wells.

- also included was: the excavation of the soils in the former drum storage area and possibly the MW-E area (to be determined by subsequent soil borings). The excavated soils will then be disposed of off-Site.

As previously noted, it was decided in the ROD for OU-3 that the on-Site ground-water component of OU-1 would be more appropriately and effectively addressed as part of the regional ground-water remedy.

III.- CONSTRUCTION ACTIVITIES

Soil sampling in the MW-E area, the Sump 1 area, and the Sump 2 area, took place in December 1998. Based upon the analysis of the soil sampling data collected in 1998, the conclusion was reached, based upon the TBC criteria (*NYSDEC Technical Administrative Guidance Memorandum*) as stated in the January 1994 ROD, that the MW-E area and the Sump 2 area were not source areas for contamination levels which would require remedial action.

In November 2000, the concrete tank in Sump 1 was removed. The demolition debris (concrete from the tank) was disposed of at the Chemical Waste Management Facility in Model City, New York. Any soil excavated during the removal of the tank, was placed back into Sump 1. The approval of the EPA to place the soil back into Sump 1 was given in September 2001.

The excavation of PCB-impacted soils was necessary in the former drum-storage area since sampling indicated that the TBC criterion of 10 ppm had been exceeded. The excavation of 310 tons of soil occurred in early December 2001. Later in December 2001, based on confirmatory results, an additional 17 tons of soil were removed. The total of 327 tons of soil is equivalent to 220 cubic yards based upon the conversion factor of 1.5 tons of soil per cubic yard. The PCB-impacted soil was also disposed of at the Chemical Waste Management Facility in Model City, New York.

The soil-flushing system was installed in the last week of December 2001. The hardware itself for the soil-flushing system consisted of one run of approximately 100 feet of perforated pipe installed in a rectangular, horizontal profile at a depth of 8 to10 feet below ground surface.

As to the soil-flushing which occurred in Sump 1, there were four actual flushing events. They took place in August 2002, March 2003, March 2004, and March 2005. The volume of water used

for each event was approximately 16,000 gallons. Since the flushing system was installed approximately 8 to 10 feet below ground surface in an unsaturated zone which zone extends to approximately 50 feet below ground surface, the flushing system was abandoned in place.

IV.- CHRONOLOGY OF EVENTS

Date	Events
1986 - June	The Site was entered on the NPL
1988 - September	The EPA issued a Consent Order to study the Site's contamination and to evaluate the final cleanup efforts.
1994 - January	The EPA issued a Record of Decision for OU-1.
1994 - June	The EPA issued a Unilateral Administrative Order directing the PRPs to perform the Remedial Design and Remedial Action (RD/RA).
1998	Soil sampling was conducted in the MW-E Area and the Sump1 Area.
2000 - November	The concrete tank in Sump 1 was removed.
2001 - December	327 tons of PCB-impacted soil were excavated from the former drum-storage area.
2001 - December	The soil-flushing system was installed.
2002 to 2005	Soil flushing using potable water was performed in Sump 1 in August 2002, March 2003, March 2004, and March 2005. Natural flushing of the MW-E area was ongoing during this period.
March 16, 2006	The Final OU-1 Sampling and Evaluation document was submitted to the EPA. The data presented in the document show that both the enhanced soil flushing and soil flushing in conjunction with natural attenuation have achieved the intended cleanup goals.

V.- PERFORMANCE STANDARDS AND CONSTRUCTION QUALITY CONTROL

Soil samples were collected from the MW-E area in January 2006. These sample results confirmed the results from 1998, *i.e.*, that PCE, iron, and zinc were no longer present at concentrations which exceed their respective TBC criteria as stated in the January 1994 ROD. Thus, the MW-E area is no longer a meaningful source of these compounds to the ground water. The decrease in ground-water concentrations from 1998 to 2006 confirm that natural attenuation is effectively addressing the PCE, iron, and zinc in this area; that PCE and zinc are below their criteria; and, that iron has decreased by 93% in just three years (from 2002 to 2005). Continued reductions are expected to

occur.

Soil samples were also collected in January 2006 from Sump 1. The sample results showed that PCE, chrysene, di-n-butyl phthalate, phenol, arsenic, chromium, and zinc were no longer present at concentrations which exceed their criteria. The only parameter which exceeded the criterion of 10 ppm identified in the 1994 ROD was PCBs at a concentration of 19 ppm in one sample at a depth of 13 to15 feet below ground surface. However, effective December 14, 2006, New York State issued 6NYCRR Subpart 375.6, Remedial Soil Objectives. The soil cleanup objective for PCBs for protection of public health in an industrial area is 25 ppm. Furthermore, given that PCBs were not detected above their criterion in the ground water, it was concluded that no further remedial action needs to be implemented in Sump 1.

All work was performed and reported in accordance with specific EPA-approved Work Plan and QA/QC requirements. In addition, the removal of the concrete tank from Sump 1 was performed under the oversight of the Nassau County Department of Health.

VI.- FINAL INSPECTION AND CERTIFICATIONS

The Final Inspection occurred in January 2006 when the final sampling efforts were completed.

VII.- OPERATION & MAINTENANCE ACTIVITIES

No further remedial actions need to be implemented in Sump 1 and in the MW-E area. The soil-flushing performed to date has effectively reduced the chemical concentrations to minimal levels and natural attenuation will continue to further reduce the chemical traces that remain. Thus, the on-Site soil remediation for OU-1 is now complete.

Since no future ground-water monitoring will be required, the six (6) on-Site ground-water monitoring wells have been taken out of service, *i.e.*, each well was grouted with the external parts being removed.

VIII.- SUMMARY OF PROJECT COSTS

No project cost figures are available due to the confidentiality requirements of the PRPs.

IX.- OBSERVATIONS AND LESSONS LEARNED

The soil-flushing in the sand and gravel aquifer was very effective. The ground-water standards were reached more quickly than anticipated in the ROD. This may also be attributed in part to a greater impact of natural attenuation.

X.- CONTACT INFORMATION

The PRPs used the following design contractor for the Remedial Action:

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: SEP 28 2007

SUBJECT: Approval of the *Remedial Action Report* for Operable Unit One for the Hooker Chemical/Ruco Polymer Superfund Site, Town of Hicksville, Nassau County, New York

FROM: Kevin M. Lynch , Chief
Western New York Remediation Section

TO: John E. La Padula, P.E., Chief
New York Remediation Branch

Attached for your review and approval is a Remedial Action Report for the remedy for Operable Unit One at the Hooker Chemical/Ruco Polymer Superfund Site.

Please denote your approval of the subject document by signing below.

Attachment

Approved: _____ 9/28/07

John E. La Padula, P.E., Chief
New York Remediation Branch

Date